

Maryland School Assessment

Science

2007 Public Release

Grade 5

Acknowledgements:

Amusement Park Physics: Free Fall

“Free Fall” from *Amusement Park Physics* at www.learner.org, Annenberg Media, ©1997.

Greenhouse Effect

“The Greenhouse Effect.” Courtesy: United States Environmental Protection Agency.

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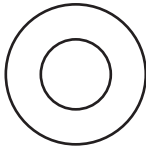
Session 3

35 Aluminum and copper are composed of different types of matter.

Which statement best describes matter?

- ☐ **A** Matter has mass.
- ☐ **B** Matter has mass and volume.
- ☐ **C** Matter must change into different forms.
- ☐ **D** Matter must be contained in a certain volume.

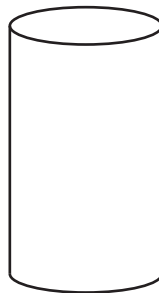
36 Different materials are attracted by magnets.



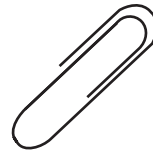
Aluminum Washer



Iron Nail



Copper Cylinder



Steel Paper Clip

Which items are attracted by a magnet?

- ☐ **A** copper cylinder and iron nail
- ☐ **B** steel paper clip and iron nail
- ☐ **C** steel paper clip and copper cylinder
- ☐ **D** aluminum washer and steel paper clip

37 Fossils of clam shells were found in the Appalachian Mountains.

Which of these statements best explains why the clam shells were found in the Appalachian Mountains?

- ☐ **A** The mountain range was once under water.
- ☐ **B** Birds flying overhead dropped the clam shells.
- ☐ **C** Animals released the clam shells in their waste.
- ☐ **D** The clams lived on land before moving to water.

Directions

Use the information below to answer Numbers 38 through 40.

Students are learning about the natural resources in Maryland. One group of students researches information about renewable natural resources in the state. The other group researches information about nonrenewable natural resources in the state. The resources the students investigate include plants, animals, soil, minerals, water, coal, and oil.

38 Aluminum is a nonrenewable natural resource.

Which of these methods of aluminum disposal is best for the environment?

- ☐ **A** burning it
- ☐ **B** recycling it
- ☐ **C** burying it in landfills
- ☐ **D** crushing it before throwing it away

39 Which of the following human activities negatively affects a natural resource?

- ☐ A fishing in a lake
- ☐ B using water to produce electricity
- ☐ C planting native plants along a lakeshore
- ☐ D directing runoff from cropland into a lake

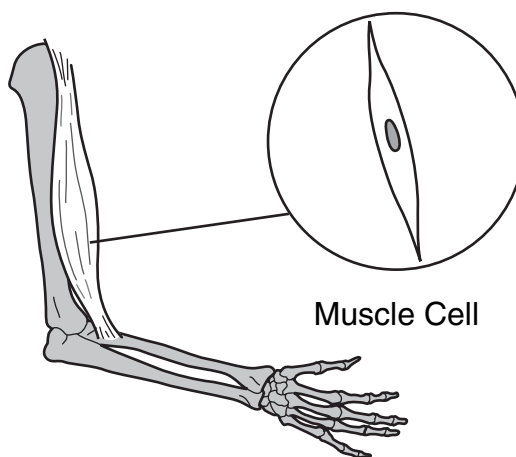
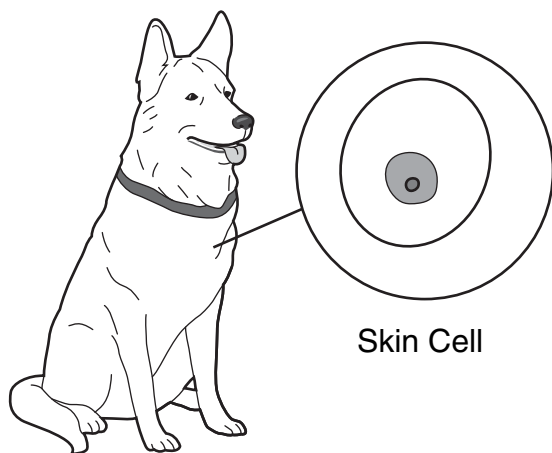
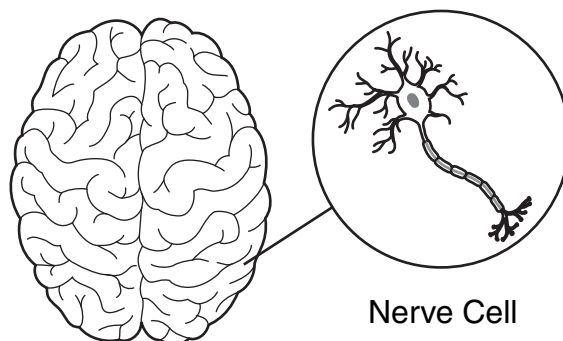
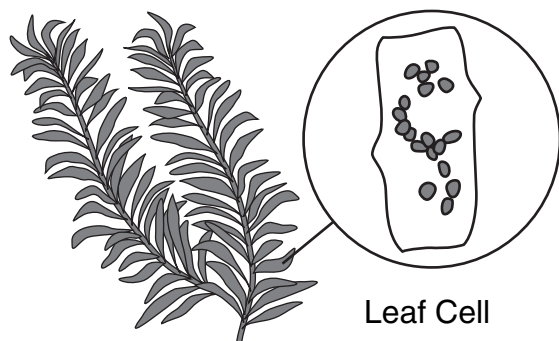
40 Which nonrenewable natural resource heats homes?

- ☐ A sunlight
- ☐ B aluminum
- ☐ C natural gas
- ☐ D ocean waves

Directions

Use the information below to answer Numbers 41 through 43.

Most organisms are made of many different types of cells. Each type of cell has a special role within the organism.



41 Which of these organisms would most likely contain cells shaped like a rectangle?

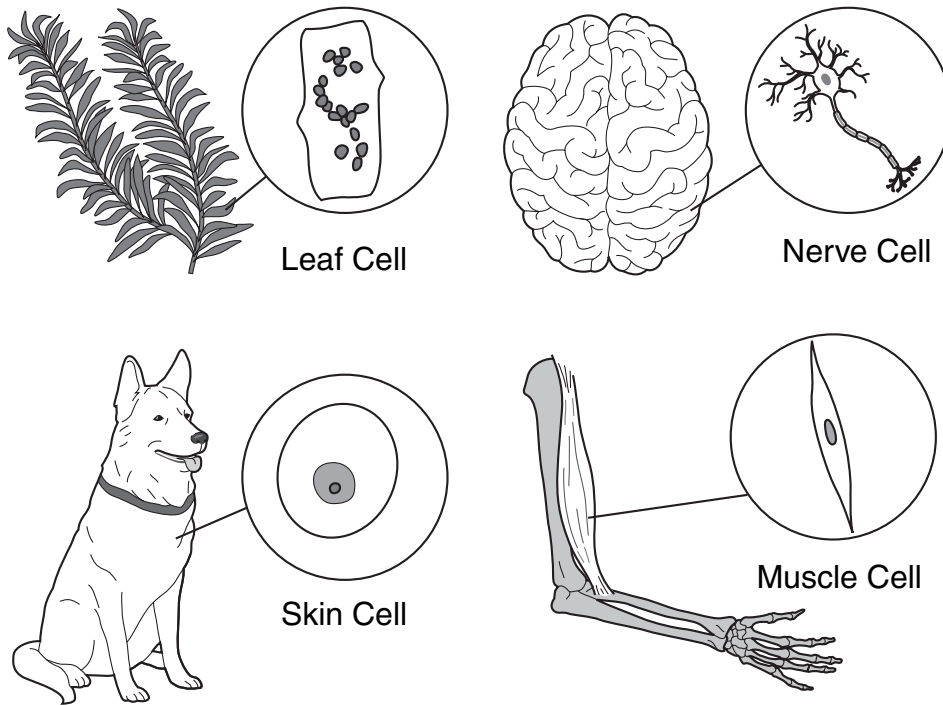
- ☐ **A** a cat
- ☐ **B** a clam
- ☐ **C** a fish
- ☐ **D** a tree

42 Which of these cells uses sunlight to produce food?

- ☐ **A** leaf cell
- ☐ **B** skin cell
- ☐ **C** nerve cell
- ☐ **D** muscle cell

43

Multicellular organisms are made of groups of cells working together to do one job. These are called specialized cells. The diagrams show four types of specialized cells. Not all multicellular organisms need the same specialized cells.



Explain why multicellular organisms only need certain specialized cells. In your explanation, be sure to include

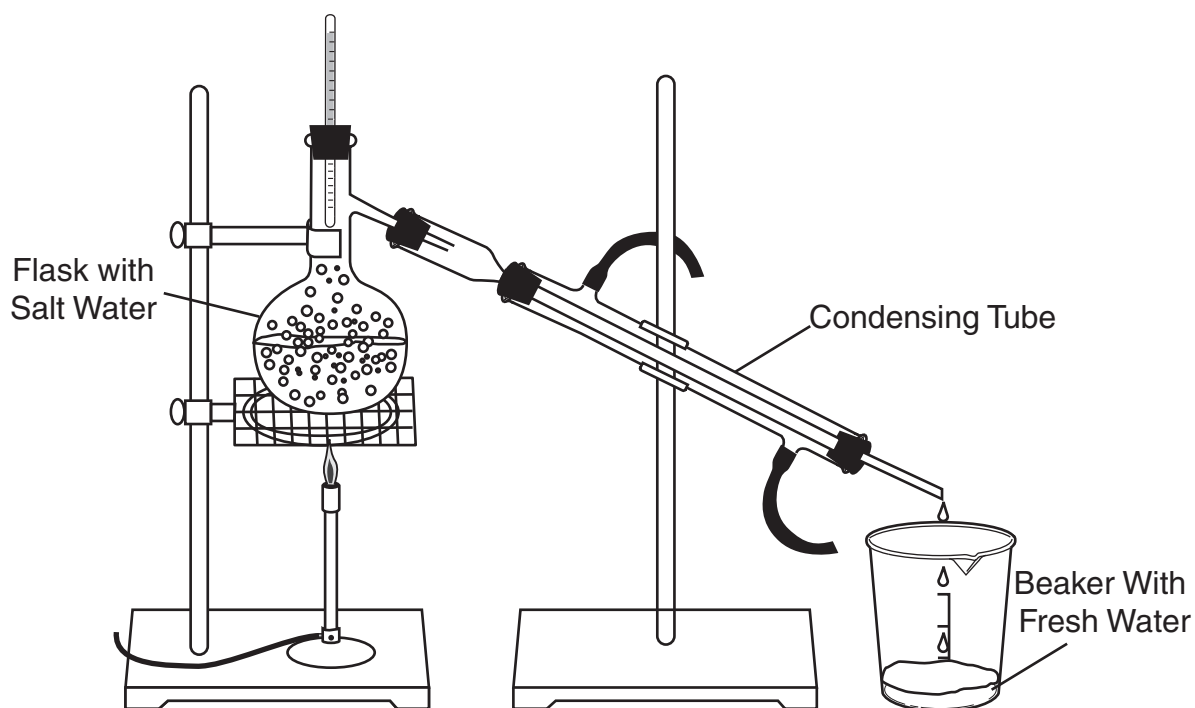
- a type of specialized cell not found in a plant
- why this specialized cell is not needed by a plant

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Directions

Use the information below to answer Numbers 44 through 46.

Seawater contains a number of different salts. The water can be separated by a process called distillation. A simple distillation setup is shown below.



The water in the flask evaporates. Water vapor (gas) rises, leaving the salt in the flask. The water vapor is cooled in the condensing tube and drips into the beaker.

44 During the process shown in the diagram, water vapor (gas) changes into liquid water by

- ☐ A cooling
- ☐ B evaporating
- ☐ C freezing
- ☐ D warming

45 Why does salt remain in the flask?

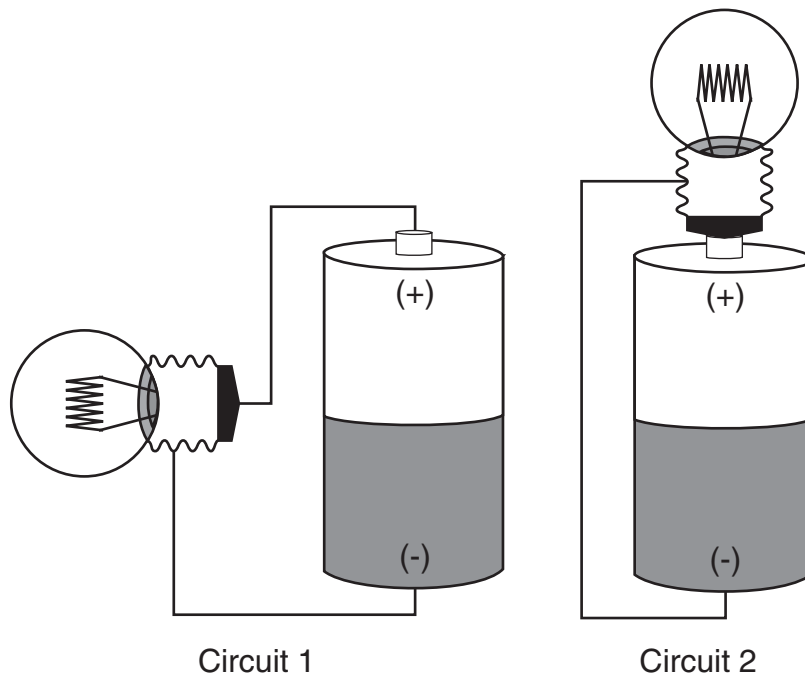
- ☐ A Salt is attracted to heat.
- ☐ B Salt does not evaporate.
- ☐ C Salt is too heavy to become a vapor (gas).
- ☐ D Salt becomes water after it is heated.

46 Salt water and fresh water are both found on the surface of Earth.

What feature of water is most important to life on Earth?

- ☐ A the ability to dissolve salt
- ☐ B the ability to change shape
- ☐ C the ability to exist in the atmosphere
- ☐ D the ability to exist as a solid, liquid, or gas

Use the diagram below to answer Number 47.


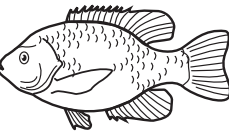

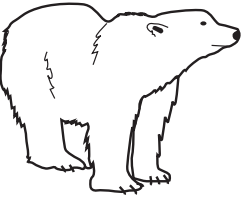


47 Which statement best describes the circuits in the diagram?

- ☐ **A** Only the light bulb in Circuit 1 is lit.
- ☐ **B** Only the light bulb in Circuit 2 is lit.
- ☐ **C** Both light bulbs are lit.
- ☐ **D** Neither light bulb is lit.

48

Each of the animals below belongs to a different group.

Group 1	Group 2	Group 3	Group 4
 Great Blue Heron	 Sunfish	 Leopard Frog	 Polar Bear

Which physical feature classifies all four animals into the same group?

- ☐ A the type of skin
- ☐ B the number of legs
- ☐ C the size of the eyes
- ☐ D the location of the mouth

49 Eye color is a physical trait.

Which statement best explains why a child has a specific eye color?

- ☐ A Eye color is a learned trait.
- ☐ B Eye color is an inherited trait.
- ☐ C Eye color is a trait that changes over time.
- ☐ D Eye color is a trait that happens by chance.

50 Coal and trees are resources found in Maryland.

Both resources are used for

- ☐ A making paper
- ☐ B making pencils
- ☐ C building houses
- ☐ D producing heat